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ON NORTH AMERICAN NOCTUÆ.

BY AUG. R. GROTE.

Apatela Harveyana, n. s.

♀. Allied to *hasta* and *Radcliffei*; a little larger and differing by the increased size of the stigmata, which are not joined by a dash, as they are in *hasta*. Fore wings pale bluish-gray. Basal black dash arrested at the inner component line of the widely geminate transverse anterior line. Orbicular large, irregularly ovate, differing in shape from the same spot in allied species. Reniform very large, luniform. T. p. line shaped as in *hasta*. The two dashes on terminal space, one above internal angle, the other opposite the disk, are linear and fine. Secondaries fuscous, beneath paler with discal lunule and dentate median line.

Expanse 42 mm. Sharon Springs, N. Y., O. Meske, July 23, named for Dr. Leon F. Harvey, of Buffalo.

Apatela (Eulonche) **lanceolaria**, n. s.

♂. A species allied to *oblinita*, but differing by the yet narrower, lanceolate, pointed primaries. Color like *oblinita*, a little more bluish-gray, the fore wings covered with white scales over a blackish ground. All the markings confused, the t. p. line alone to be distinguished, not fragmentary and sinuate as in *oblinita*, but continuous, angulate on median nervules, and very near external margin; it is crossed by two black dashes opposite the cell; a longer one before internal angle. Hind wings pure white. Beneath white; *no discal marks*.

Expanse 42 mm. Newtonville, Mass., Mr. Roland Thaxter, June 6, No. 36.

Mamestra vindemialis, n. s.

♀. A species of large size with hairy eyes and habitus of *Haedena sputatrix*. Fore wings entirely deep purple or vinous red; veins shaded with blackish. Ornamentation obsolete. Reniform narrow, indicated by powdery scales. The four ante-apical pale dots distinct. Thorax and head like fore wings; beneath, the body is tinted with vinous. Hind wings yellowish-fuscous, tinted with vinous on the dusky borders. Beneath, without discal marks, shaded with vinous and with a faint median shade line.

Expanse 40 mm. Newtonville, Mass., Mr. Roland Thaxter, June 24.

***Heliophila lapidaria*, n. s.**

♂. ♀. A species allied to *phragmitidicola* and *adjuta*, with immaculate white secondaries in both sexes. The fore wings resemble *pallens* and *adjuta*, but are less yellowish; they are terminally interspaceally darker shaded, the veins whitish. The shade under the median vein is not black, nor darker than the terminal shades. There is a black cellular dot, and the t. p. line is indicated by two disconnected dots as in *pallens*, *adjuta*, not by a series of points as in *phragmitidicola*, and *adonea*. A terminal series of points on the white hind wings above, noticeable on both wings beneath. Collar with three lead-colored lines. The species is a little slenderer than *phragmitidicola*, and wants the terminal shading to the hind wings.

Expanse 34 to 36 mm. Buffalo, N. Y.

I have discovered in examining a collection of Canadian Noctuidæ named by the late Mr. Francis Walker, that *multilinea*, Walk., is the same species as *commoides*, Guen.

Helotropha atra, Grote, Proc. Acad. N. S. Phila. 1874, 200.

♂. ♀. Both sexes of this form have been taken by Mr. Wm. Saunders, London, Canada; it has also occurred to Mr. Lintner, near Albany, N. Y. It differs from *reniformis*, by the smaller, compact, whitish reniform, this, with the concolorous brownish-black fore wings, gives the moth a resemblance to *Hadena sputatrix*, Grote. The faintly expressed ornamentation resembles that of *Helotropha reniformis*, Grote. I believe it to be a distinct species.

***Hadena diversicolor*.**

Demas diversicolor, Morr. Proc. Bost. S. N. H., 132, 1874.

I have examined the ♀ type of this species belonging to Mr. Thaxter. The position of the accessory cell is not as in *Demas* (Lederer's Taf. 1, fig. 3). The palpi are not "short and hanging," nor is the head "drawn in" any more than in *Hadena finitima*, for example. It may seem "a wide leap," but the species is a *Hadena* and not a *Demas*, and this latter genus is not as yet shown to occur in North America. The ornamentation strongly resembles that of *Hadena modica*, and the structure and the characteristic ringlets beneath on the disk, replacing the usual

form of the discal mark, show the moth to be naturally grouped with our species which Mr. Guenée calls "*Apamea*," but which I have referred to *Hadena*.

***Hadena vultuosa*, n. s.**

♂. ♀. Belongs to the section *Xylophasia*, and is very closely allied to *H. lignicolor*. It is a little smaller than this species. The red color is wanting. The tegulæ are blackish-brown; disk ferruginous. The ground color of the wings is a pale obscure ochreous. The costa is shaded with dark-brown, and this shade obtains on terminal space and runs inwardly in two places, at internal margin and opposite the cell, as in *lignicolor*. The ground color of the wing is free from dashes of darker shade over the median and subterminal spaces. There is a brown shade on the internal margin at base. The transverse lines are indicated by costal streaks. The stigmata are much as in *lignicolor*, but narrower. The t. p. line is usually seen as a single faint line, scalloped and succeeded by a double series of dots on the points, the inner series black and evident. Beneath there is an indistinct common shade line. Specimens from Canada (Mr. Saunders) and New York (Mr. Robinson) seem larger than the figures of the European *rurea* which I have seen, and differ by the absence of any whitish shade on internal margin, and by the discal dots beneath being solid. I have catalogued this species as *rurea*, from a determination received from the late Mr. Walker. But there is sufficient evidence now that the European species is different, while a nearer comparison must be postponed until European material can be obtained.

***Mamestra Dimmocki*, n. s.**

♀. Allied to *subjuncta*, G. and R.; of the same blackish-brown color, differing by being darker and more reddish, by the absence of the median dash and the want of the prominent W-mark to the subterminal line. Collar with a black line. Fore wings with a short distinct black basal dash. Median lines blackish, indistinct, lunulate, approximate. Orbicular large, luniform, excavate on the inner side; reniform large, medially constricted, shaded with blackish over median nervules; claviform merely outlined. Median shade line ferruginous below the reniform. Subterminal line nearly straight, a series of interspaceal cuneiform ferruginous spots surmounted by pale atoms. Hind wings dark fuscous, with

pale fringes. Beneath thickly powdered with blackish, with a slight ruddy stain; hind wings with dot and line.

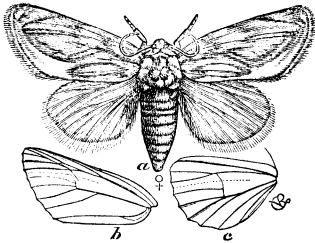
Expanse 40 mm.

From the White Mountains, New Hampshire, collected by Mr. Geo. Dimmock, for whom I name the species.

Cirrhophanus triangulifer, Grote, Can. Ent. 4, 187.

♂. Antennæ with thickened scape, simple, scaled above, ciliate beneath. Eyes naked. Thorax tufted; wings rounded. Front roughened, tuberculate; palpi slender, short. Legs unarmed. Rich, rather pale, silky yellow, with deep yellow linear shadings. Fore wings with the usual markings wanting. All the markings deep ochre-yellow, consisting of curved or straight shadings on the veins and interspaces. The t. p. line seems near the margin, geminate, shaded, even, forming a rounded sweep from opposite the cell to below vein 2, where it is indented; it here appears to be disconnected, running back on the vein; below this

two curved ochre lines on each side of vein 1 seem to meet on the t. p. line. Thus two triangulate spaces are formed on the primary. Subterminal and terminal lines indicated. Fringes and hind wings shiny yellow. Beneath yellow without markings.



Expanse 40 mm. Kansas, Prof. Snow.

By the kindness of Professor C. V. Riley I am enabled to present the annexed beautiful wood-cut, illustrating the female type of this species and showing the neuration. The student is referred to the original paper for my remarks on the structural affinities of the moth, which seem to me to lie with *Gortyna*.

Lygranthoecia limbalis, n. s.

♀. Allied to *arcifera*. Fore wings deep shining blackish-brown; thorax more reddish. All the lines obliterate; the annulets of the reniform can be made out. On the middle of the wing there is a whitish patch on internal margin, and one above it, smaller, on costa. Hind wings black, immaculate, with pale fringes. Beneath black, with the terminal spaces reddish. Abdomen black, with the terminal segment yellowish.

Expanse 20 mm. Habitat, Kansas, Prof. Snow.

Aedophron Snowi, n. s.

♀. Eyes naked; tongue stout; fore tibiae short, with terminal and lateral claws; hind and middle tibiae spinose. Wings shaped as in *A. rhodites* from Europe, and colors the same. The American species is larger and stouter, and has less rose-color on fore wings. Thorax and fore wings pale lemon-yellow, color of *Heliothis citrinellus*, G. and R. Fore wings with a light roseate shading beyond the cell, and with the sinuate t. p. line faintly indicated in rose-color. Some roseate basal shades and at the place of the t. a. line. Hind wings pale fuscous, with a rosy terminal stain; fringes pale. Beneath primaries fuscous, with rosy apices; hind wings yellow, with rosy tint near anal angle. Body stout.

Expanse 32 mm. Hab. Lawrence, Kansas. Prof. F. H. Snow, for whom I name the beautiful species.

Agrotis Hübner.

Both of the first two of the following forms were communicated by me to Mr. Morrison of Cambridge, in response to his request to send him new species for his intended paper on the genus. Both were returned by him as varieties of *A. auxiliaris*, Grote. It is possible that this view will be found correct; still it will be proper to give the forms different designations. I have *A. auxiliaris* from Texas and Colorado.

Of the first form I have two female specimens before me, collected with a number of other specimens by Mr. Jas. Ridings in Colorado; I have also donated one to Mr. Morrison. The color is much paler than *auxiliaris*, and there is a resemblance in this form to *messoria*, from which it differs by the more dentate transverse anterior and distincter terminal line, as well as by the darker secondaries and larger size. There is a faint ochrey shading, more visible in the median space. The reniform is smaller, a little blackish stained at base, the claviform shorter and narrower and only visible at apex, compared with *auxiliaris*. There is no blackish basal dash nor whitening of the vein above it; and no indication of the submedian stripe. Else the markings are much like *auxiliaris*, while the primaries are more uniform in their neutral tint. The smoky secondaries with white interlined fringes are much as in *auxiliaris*; beneath the discal mark is more prominent.

Expanse 42 mm.

Agrotis introferens, n. s.

I have a fine male specimen sent me by Mr. E. L. Graef, from Texas. It resembles *perexcellens* from California in coloration, but is narrower winged and has the habitus of *auxiliaris*. It differs by the collar at base being ochreous, divided by the central black line from the superior dark brownish portion. The costa is broadly striped with ochreous to the reniform. The stigmata are distinctly inter-annulate with white, and the median vein is white lined. The subterminal space is shaded with ochreous or pale leather-brown, and the internal margin also shaded with the same color, recalling *fennica*. The orbicular is more irregular and angulate in shape, and larger. The claviform is less prominent, and there is the same ochrey submedian stripe as in *auxiliaris*. Hind wings and under surface much like the other forms.

Expanse 42 mm.

Agrotis campestris, n. s.

Allied to *tessellata*. It differs by its larger size, the even dark purple-brown of the primaries and thorax; the latter and the fringes being in one specimen shaded with ferruginous. The black shading on the cell is more obvious, and the transverse lines distinctly marked in black. Hind wings usually darker than in *tessellata*, with fringes almost entirely fuscous. Under side like *tessellata*, of which this may be a modification, but, if so, its distribution is singular.

Expanse 35 to 37 mm. Vancouver Island, Mr. Henry Edwards, No. 5644; Canada, Mr. Geo. Norman; N. Y. Mr. Theo. L. Mead, No. 131.

Agrotis cinereomacula, Morr.

♀. A species allied to *perexcellens* in colors and ornamentation. Fore wings either entirely ochrey or pale leather-brown or with the median space and middle of the wing from t. p. line to base shaded with red-brown. The variation consists in the amount of red-brown shading to the wing; in either case the subterminal space costa and internal margin are ochreous. Stigmata rather large, ashen, of the usual shape, with black annuli; cell shaded with blackish-brown. Subterminal line preceded on costa by a brown shade, leaving the ochreous tint of the s. t. space to spread over apices. Terminal space narrow, irregular, filled with blackish below vein 7. Median vein narrowly white-lined; a black dash be-

tween basal and t. a. line below the vein. Thorax red-brown; collar at base ochreous. Transverse median lines on fore wing sub-obsolete. This species is broader winged than *introferens*, and very like *perexcellens*, Grote, from the Pacific coast, differing by the shorter claviform, the more ochrey hue, and apparently by the less prominent lunulations of the t. p. line.

Expanse 38 to 40 mm. Canada, Mr. Geo. Norman.

Mr. Morrison has sent me a specimen under this name that I refer to this species. His brief description cannot possibly be used to identify the species. Compare Bost. Proc. 1874, p. 164.

***Agrotis gularis*, n. s.**

♂. Possibly a form of *cinereomacula*. Antennæ feebly brush-like. Seems to be a shorter winged and stouter species. Anterior wings and thorax entirely unicolorous shining purplish red-brown. Stigmata interlined with pale powdery scales, defined by black annuli, concolorous, of the usual shape. A black dash below median vein, which extends from base to t. a. line, the latter fragmentary. Cell shaded with blackish. Claviform black outlined, short, and sharp. T. p. line obsolete. Terminal space blackish stained, and there is a preapical deeper costal shade before the inception of the s. t. line. Hind wings smoky fuscous; fringes dark. Beneath with lunule, subirrorate, and darker than in the preceding species.

Expanse 35 mm. Canada, Mr. Geo. Norman, No. 381.

***Agrotis haruspica*, Grote.**

Mr. Morrison (Proc. Acad. Nat. Sci. Phila. 1875, 59) says that I am in "error" with regard to the name *unimacula*, proposed for this species by himself, that it is not preoccupied in the genus, "the name is used by Dr. Staudinger for a simple variety of the common *A. plecta*, Linn." Mr. Morrison seems to be unacquainted with the discussion carried on in the Wiener Ent. Monatschrift by Lederer with respect to the Andalusian *A. unimacula*, Staud. Lederer regarded the Spanish species as a form of *leucogaster*, not *plecta*; on the other hand, Staudinger cites it with doubt in his last Catalogue as a variety of *plecta*, considering it still to have claims to rank as a species, as which he at first described it. In no event, whether for a species or a variety, could the same name be used twice in the same genus. In a difficult matter, like that of *unimacula*, Staud., a statement from Mr. Morrison, without

even specimens before him, can hardly as yet correct European lepidopterists, or affect the operation of a rule in zoological nomenclature.

Mamestra lubens, Grote.

Mamestra rufula, ♀ Morr. Proc. Acad. N. Sci. Phila. 1874, 62.

The name here retained I have proposed in the Trans. Ent. Soc. Phila., in a paper issued prior to my receipt of Mr. Morrison's pamphlet. I have not, at this writing, the complete data before me, though, I believe, I have priority; the question is not material, for I have employed the name previously for a Californian species, *Dianthæcia rufula*; and the validity of Boisdunal's genus is disputable since the discovery of American forms. The absence of the tibial spinule is omitted in Mr. Morrison's comparison with the European *brassicæ*.

Parastichtis minusecula (Morr.).

♀. A small species with the genital process extended. This is, though not prominently visible, the remarkable character in this genus with naked, lashless eyes, and unarmed tibiae. The present species has apparently no tufts on thorax, and none on abdomen; neither of my two specimens are, however, perfectly fresh. The colors are somewhat like *meditata*. Dark lilac gray; terminal space contrastingly paler. A faint reddish tinge about median space. The claviform is indicated by a black dash, which extends across the median space. The lines are faint; t. p. line very sinuous, narrowing the median space. Reniform upright, narrow, concolorous; orbicular ovate, oblique. Hind wings blackish-fuscous, with paler fringes. Beneath dark, subirrorate; hind wings paler at base; a reduced discal dot and very obscure double common lines. Thorax like fore wings.

Expanse 23 mm. Orillia, Mr. Geo. Norman, Nos. 399, 401, Sept. 9.

There is a faint resemblance to *finitima* in this much smaller species.

Fala, n. g.

A form allied by the conformation of the clypeus to *Stibadium* and *Plagiomimicus*. The front is entirely cup-shaped, excavate, raised rim-like around the edges; from the centre a broad wedge-shaped horn or prominence arises. Tibiæ unarmed; fore tibiae with a terminal claw. Eyes naked, unlashd. Thorax untufted;

abdomen short, untufted. Primaries widening outwardly, with depressed costal margin. Antennæ of the male simple, ciliate.

Fala ptycophora, n. s.

♂. Fore wings gray, shaded with ochreous, especially in two stripes from the base outwardly across the disk, and downwardly below median vein to internal angle. T. a. line geminate, deeply and widely dentate. Orbicular shaded with white, rounded, annulate with blackish-brown. Reniform narrow, elongate, scroll-shaped, white with brown annulus. Median space very wide, the t. p. line very near the subterminal, geminate, regularly lunate, not very distinct. Subterminal line shaded with blackish, and preceded by some very prominent white-filled dentations inferiorly. Fringes dark, interrupted narrowly with pale opposite the extremity of the veins. Hind wings fuscous, beneath with prolonged lunule and faint median line. Thorax and head mixed gray and blackish; tegulæ rather prominent, recalling allied genera.

Expanse 32 mm.

Hab. California.

Heliothis luteitinctus, n. s.

Allied to *phlogophagus*, from which it differs by the light yellow hind wings, with a broad black lunule and black hind margin interrupted in the usual place with yellow. Beneath both wings clear yellow, on the hind wings the discal mark is larger than in its ally, flask-shaped, narrowed superiorly, the terminal black band is reduced to a black submedian patch. In color of primaries and in their indistinct marking this species is very similar to *phlogophagus*; the medium shade is, however, absent.

Expanse 30 mm. Nebraska, Mr. Dodge, No. 51.

Tarache augustipennis, n. s.

With the colors of *biplaga*, this species resembles rather *terminimaculata* in the shape of the wings; the primaries are slightly produced at internal angle, and are unusually narrow; form slenderer than in its ally. Thorax and head blackish; palpi and under surface of body and collar at base whitish. Fore wings blackish, with a white stripe along median vein (and spreading above it nearly to costal edge) to the place of the t. a. line. A white curved fleck on the cell, sometimes connected with the basal dash. A broad pre-apical white costal mark, and a narrower one beyond it surmounting the whitish terminal space, where the

whitish color extends backwards on internal margin to the curved t. p. line, which is only visible inferiorly. A black terminal line; other ornamentation indistinct. Fringes long, interlined. Hind wings pale fuscous, with whitish fringes. Beneath testaceous whitish, glistening; primaries shaded medially with fuscous. Abdomen whitish, yellowish at tip.

Expanse 25 mm. Texas, Bosque Co., G. W. Belfrage, No. 493, June 5.

Catocala Alabamæ, n. s.

Allied to *grynea* (= *nuptula*, Walk.), but differing by the paler primaries, which want the ferruginous tone on internal margin, and in certain details of ornamentation. Size a little under *grynea*. Primaries pale, but very slightly glaucous-gray. Lines black, not brown. Transverse anterior distinct and running outwardly obliquely to submedian fold, thence obsolete. Its shape is less rounded than in *grynea*, and it is not so strongly denticulate anteriorly. Reniform vague, without distinct interior annulus, and with a whitish exterior clouding. Transverse posterior line as in *grynea*, but it does not extend so far backwards towards the t. a. line at internal margin. Subterminal space shaded with obscure brownish, inferiorly becoming blackish. Subterminal line whitish, rather distinctly dentate. Terminal lunulated line distinct. Hind wings a little brighter yellow than in *grynea*, with the band less than half the width, very uneven, much constricted anteriorly, running narrowly and unevenly nearly to internal margin. Basal black hairs limited. Terminal band interrupted, allowing of a larger apical yellow mark than in its ally. Beneath without any traces of a basal transverse clouding or band on the fore wings, else with a similarity to *grynea*.

Expanse 42 mm.

Hab. Demopolis, Ala. (A. R. Grote.)

On pages 221-223 of the second volume of the Bulletin of the Buffalo Society of Natural Sciences, I have given the additional species described since the publication of the List of North American Noctuidæ. The number of species was thereby increased to 83. Since that time five additional species have now been published, one of which (*editha*) I have not seen. The five species are *C. Nebraska*, Dodge, *C. Editha*, Edw., *C. Belfragiana*, Harvey, *C. Verrilliana*, Grote, *C. Alabamæ*, Grote.